Installation and Initial Start-Up

To obtain warranty coverage, please fill out and return the warranty registration card now.

Inspection

Inspect the UPS upon receipt. Notify the carrier and dealer if there is damage. The packaging is recyclable; save it for reuse or dispose of it properly.

Placement

Install the UPS in a protected area that is free of excessive dust and has adequate air flow. Do not operate the UPS where the temperature and humidity is outside the specified limits.

Warning: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the warranty.

Connect to Utility

Operating Instructions

Switch “On” — Switch “Off”

With the UPS plugged in, press and release the On/Off/Test button to supply power to the loads.

The UPS loads are immediately powered while the UPS performs a self-test. Press and release the button again to turn “Off” power to the loads. It may be convenient to use the UPS as a master “On/Off” switch for the protected equipment.

The on-line LED illuminates when the UPS is supplying utility power to the battery backup loads.

Self-test

The UPS performs a self-test automatically when turned “On”, and every two weeks thereafter (by default). Automatic self-test eliminates the need for periodic manual self-tests. During the self-test, the UPS briefly operates the loads on-battery. If the UPS passes the self-test, it returns to on-line operation.

If the UPS fails the self-test it immediately returns to on-line operation and lights the replace battery LED.

Check the Site Wiring Fault Indicator

Location: Top right corner of UPS back panel.

Caution: If the site wiring fault indicator lights, get a qualified electrician to correct the building wiring.

Connect the Loads

Plug the loads into the output connectors on the rear of the UPS. To use the UPS as a master “On/Off” switch, make sure that all of the loads are switched “On”.

Caution: Do not connect a laser printer to the Battery Backup Outlets.

Battery Backup Outlets: These UPS outlets provide battery power and surge protection to equipment when utility voltage is outside acceptable limits. Data sensitive equipment such as a computer, monitor, or external drive are connected to these outlets.

On-Battery

During on-battery operation, the on-battery LED illuminates and the UPS sounds an audible alarm consisting of 4 beeps every 30 seconds. The alarm stops when the UPS returns to on-line operation.

Low Battery

When the UPS is operating on-battery and the energy reserve of the battery runs low, the UPS beeps continuously until the UPS shuts down from battery exhaustion or returns to on-line operation.

Overload

When loads exceed the UPS’s capacity, the overload LED illuminates and the UPS emits a sustained tone. The alarm remains “On” until the overload is removed. Disconnect nonessential load equipment from the battery backup outlets, to eliminate the overload.

If the overload is severe, the input breaker may trip (the resettable center plunger of the circuit breaker pops out), as well. Disconnect nonessential load equipment from the UPS to eliminate the overload and press the plunger back in to restart the UPS.

If there is AC power and the circuit breaker does not trip during overload, the loads are still powered. If the circuit breaker trips or the UPS attempts to transfer to battery, the loads’ power will be shut “Off”. Turn the UPS “OFF” then back “On” to repower the loads.

Replace Battery

If the battery fails a self-test, the UPS emits short beeps for one minute and the replace battery LED illuminates.

The UPS repeats the alarm every five hours. Perform the self-test procedure to confirm replace battery conditions. The alarm stops when the battery passes the self-test.

Shutdown Mode

If there is no power, the host connected to the computer interface port can command the UPS to shut down. This is normally done to preserve battery capacity after a controlled shutdown of the protected system. In shutdown mode the UPS stops supplying power to the load. The on-line and overload LED indicators flash alternately or, if the UPS has shutdown due to a low battery, the UPS will beep once every 4 seconds for approximately 16 seconds. When line power is restored, the UPS will return to on-line operation.

Cold Start

Note: Cold start is not a normal operating condition.

When the UPS is “Off” and there is no utility power, it is possible to cold start the UPS to power the loads from the UPS’s battery.

Press and hold the On/Off/Test button until the UPS begins beeping.

Release the On/Off/Test button during the beeping to start the UPS.

Connect Telephone / Network Surge Suppression (Optional)

Connect a single line telephone or a 10Base-T/100Base-Tx network cable into the RJ-45/RJ-11 telephone/network surge protection “IN” jack on the back of the UPS. Connect from the “OUT” jack with telephone cable (supplied) or network cabling (not supplied) to a fax modem or network port.

Connect Computer Interface Port (Optional, BP1100)

PowerChute® plus power management software is included with this UPS. Connect the supplied interface cable to the 9-pin computer interface port on the back panel of the UPS. Connect to the computer. See software documentation for installation instructions.

Charge the battery

The UPS charges its battery whenever it is connected to utility power. The battery will charge fully during the first 4 hours of normal operation. Do not expect full runtime during this initial charge period.

Storage

Storage conditions

Store the UPS covered and upright in a cool, dry location, with its battery fully charged. Before storing, charge the UPS for at least 4 hours.

Extended storage

At -15 to +30 °C (+5 to +86 °F), charge the UPS’s battery every 6 months
At +30 to +45 °C (+86 to +113 °F), charge the UPS’s battery every 3 months.
Replacing the Battery

This UPS has an easy-to-replace hot-swappable battery. Battery replacement is a safe procedure, isolated from electrical hazards. You may leave the UPS and loads on for the packaging. Damage suffered to the UPS in transit is not covered under warranty. Customers who must have the original unit back due to assigned 2 year warranty period. APC's standard procedure will be to replace the original unit with a replacement battery kit.

Follow these steps:

1. Grasp the top of the front cover and lift it out and down.
2. Unhook the bottom of the cover from the chassis and lift it upward to expose the battery door. Be careful not to strain the ribbon cable. Do not touch the exposed printed circuit board.
3. Fold the front cover on top of the UPS as shown.
4. Use a flat-blade screwdriver or a coin to remove the two battery door screws and open the door.
5. Grasp the tab and gently pull the battery out of the UPS.
6. Disconnect the battery leads.

For the 1000 through 1100 VA models, connect the red wire to the positive (+) terminal and the black wire to the negative (-) terminal.

For the 1400 VA model, connect the gray battery coupler to the UPS's coupler.

8. Slide the battery into the UPS.
9. Close the battery door, replace the battery compartment screws, and replace the front cover.
10. Dispose of the old battery properly at an appropriate recycling facility or return it to the supplier in the packing material for the new battery. See the new battery instructions for more information.

Note: Small sparks at the battery connectors are normal during connection.

Troubleshooting

On-line and overload indicators are flashing

The UPS is overloaded. Reduce the load on the UPS by unplugging equipment and reset the circuit breaker by pressing the plunger back in.

On-line and overload indicators are flashing alternately

The UPS's battery is weak due to recent outage or is near the end of its service life. Change the battery. The UPS's batteries require recharging after an extended outage. Batteries age faster when put into service often and when operated at elevated temperatures. If the battery is near the end of its service life, consider replacing the battery even if the replace battery indicator is not yet lit.

On-line fault

Internal UPS fault. Do not attempt to use the UPS. Turn the UPS "Off" and have it serviced immediately.

Wiring error

Building wiring error such as missing ground or hot to neutral wire reversal. Have a qualified technician correct the wiring.

Faulty surge arresters

Connect the surge arresters.

Replacement batteries not connected properly

The UPS will not turn "On". The UPS's batteries require protection of the load. Do not attempt to use the UPS. Turn the UPS "Off" and have it serviced immediately.

About Specifications

UPS will turn "On"

There is expected back up time.

UPS will not turn "On"

Internal UPS fault. Do not attempt to use the UPS. Turn the UPS "Off" and have it serviced immediately.

Replace battery light is illuminated

Weak batteries. Allow the batteries to charge for at least 4 hours. If the problem persists after recharging, replace the batteries.

Replace battery light is illuminated or flashing

The UPS is overloaded. Reduce the load on the UPS by unplugging equipment.

Specifications

Acceptable input voltage

0 - 180 VAC

Input voltage (on-line operation)

94-148 VAC

Output voltage

115 VAC (49-62 Hz), 230 VAC (50-60 Hz)

Maximum load

1000 VA 1100 VA 1400 VA

On-battery output voltage

870 W 870 W 950 W

On-battery frequency

50 or 60 Hz, 80 - 100 Hz, unless synchronized to utility during brownout

On-battery wave shape

Triangular sine-wave

Input Over Current Protection

Resettable breaker

Transfer time

4 ms typical, blackout response time

Typical recharge time

2 to 5 hours from total discharge

Operating temperature

0 to +40 °C (32 to +104 °F)

Storage temperature

-15 to +55 °C (-15 to +131 °F)

Operating / storage relative humidity

0 to 95%, non-condensing

Operating elevation

0 to +3000 m (0 to +10,000 ft)

Storage elevation

0 to +10,000 m (0 to +50,000 ft)

Audible noise at 1 m (3 ft)

≤45 dBA

Size (H x W x D)

21.8 x 17.0 x 9.8 in. (55.6 x 43.2 x 25.0 cm)

Weight - net (shipping)

19.3 (21.2) kg 24.1 (25.9) kg 53.0 (57.0) lb.

Listing, Certifications and UL Listed

UL 1778, UL 497A, CSA 107.1, FCC part 15 Class B

EMC certification

FCC/DOC Class B certified

Electromagnetic immunity

IEC 801-4 level II,IEC 801-5 level III